Progress Report No. 14

Title: A Study of the Early Detection of Insect Infestations and Density/Distribution of Host Plants.

Citrus Insects Research
USDA, ARS
509 West Fourth St., Weslaco, Texas 78596

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(A) During this period, unfavorable weather permitted us to fly only 3.5 hours. We flew our test sites and also 2 lines of the Rio Grande Valley. Serious freeze damage to a number of groves was evident in the test areas flown. The weather again seriously obstructed our efforts to complete the flight lines for the entire area. The limited photography obtained during this period demonstrated that influences related to the freeze were readily apparent on the color infrared photography.

(B) Satisfactory completion of the experimental objectives is contingent on receipt of adequate data from Skylab 4 overpasses. We have established that these objectives can be met with aircraft data, but for maximum effectiveness of such an approach the feasibility of doing this from the satellite must be established.

(C) We hope to continue aircraft flights that will provide data that will show delayed influences from freezes that occurred in December. The freeze, by eliminating crops that can be confused with host crops of interest, could also provide a useful crop identification benefit.

(D) Aircraft data collected during this period again demonstrated the value of aerial color infrared photography for identifying the density and distribution of host plants, ecological factors related to insect population trends and the nature of plant injury reflectance characteristics.

(E) When the Skylab 4 data is obtained, we anticipate that significant increases in detail will be possible from S-190B data. While this data may not have been acquired at the optimal seasonal period, there are many factors that will demonstrate the value of the technique throughout the seasonal cycle.

(F) Very limited travel during this reporting period.